REMARKS

The Office Action dated January 8, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto. Claims 1-3, 7-10 and 18-38 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-38 are pending and under consideration.

OBJECTIONS TO THE CLAIMS:

In the Office Action, at page 2, claim 21 was objected to for a minor informality. Claim 21 has been amended to correct such minor informality. Accordingly, it is respectfully requested that the objection to the claim be withdrawn.

REJECTION UNDER 35 U.S.C. § 102:

On page 3 of the Office Action, claims 1, 2, 4-7, 11, and 35 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,418,173 to Matsuoka et al. ("Matsuoka"). The Office Action took the position that Matsuoka discloses all the aspects of independent claims 1, 2, and 35 and related dependent claims. Applicant respectfully traverse the rejection.

Independent claim 1, upon which claims 4-10 are dependent, recites a method for limiting a signal in a transmitter at chip level, the method including determining a limiting signal from a transmissible signal filtered using a pulse shaping filter,

determining an error signal using the transmissible signal and the limiting signal, and generating a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal.

Independent claim 2, upon which claims 11-14 are dependent, recites a method for limiting a signal in a transmitter at chip level, the method including determining a limiting signal from a transmissible signal filtered using a pulse shaping filter, determining an error signal using the transmissible signal and the limiting signal, orthogonalizing the error signal filtered using the filter matched to a chip pulse waveform, and generating a limited transmissible signal by reducing the orthogonalized error signal from the transmissible signal.

Independent claim 35, upon which claims 22-28 are dependent, recites a transmitter limiting a signal at chip level, the transmitter being configured to determine a limiting signal from a transmissible signal filtered using a pulse shaping filter, determine an error signal using the transmissible signal and the limiting signal, generate a limited transmissible signal by reducing the error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal, and filter the limited transmissible signal using the pulse shaping filter.

As will be discussed below, Matsuoka fails to disclose or suggest the elements of any of the presently pending claims.

Matsuoka generally describes a nonlinear distortion compensating technique in a transmission apparatus for digital radio communications. Amplitude limiting section 103

limits the amplitude of transmission signal 113 in accordance with the amplitude limiting coefficient 115 and outputs an amplitude limiting signal 116 thus obtained. See column 5, lines 12-37. Nonlinear distortion compensating section 104 compensates nonlinear distortions of amplifier 109 almost as in the description with reference to FIG. 10 in the conventional example. That is, the second amplitude calculating section 105 calculates limiting amplitude information 117 from amplitude limiting signal 116 and outputs it. Compensation table 106 outputs distortion compensation coefficient 118 in response to limiting amplitude information 117. Distortion compensating section 107 calculates distortion compensation signal 119 on the basis of distortion compensation coefficient 118 and amplitude limiting signal 119.

However, contrary to the contentions made in the Office Action, Matsuoka fails to teach or suggest all the recitations of independent claims 1, 2, and 35. For instance, Matsuoka fails to teach or suggest, at least, determining or determine "an error signal using the transmissible signal and the limiting signal," as recited in independent claims 1, 2, and 35. The Office Action refers to the distortion compensating section 107 as determining the error signal of the present claims. However, the distortion compensating section 107 of Matsuoka does not determine an error signal using the transmission signal 113 and the amplitude limiting signal 116. Rather, the distortion compensating section 107 generates a distortion compensation signal 119 based on the amplitude limiting signal 116 **and a distortion compensation coefficient 118**. The distortion compensating section 107 does not use the transmission signal 113 to generate the distortion

compensation signal 119. Furthermore, the distortion compensating section 107 does not generate an error signal. Rather, the distortion compensating section 107 generates a distortion compensation signal 119, which are later used by a quadrature modulating section 108 to modulate to radio frequency (RF) signals, which are signals 119 of carrier band. See column 5, lines 33-37. Accordingly, Matsuoka fails to teach or suggest, at least, determining or determine "an error signal using the transmissible signal and the limiting signal," as recited in independent claims 1, 2, and 35.

Furthermore, Matsuoka fails to teach or suggest, at least, generating or generate "a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal," as recited in independent claims 1, 2, and 35. Matsuoka is devoid of any teaching or suggestion providing a reduction of an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal. The Office Action refers to column 6, lines 10-11 of Matsuoka to reject this feature recited in independent claims 1, 2, and 35. This portion is limited to providing that distortion components, the amplitude of which is limited, can be designed in advance on the basis of its modulation system and limiting properties. However, solely providing that the distortion components may be designed in advance based on modulation and limiting properties would not provide enough information that would enable a person of ordinary skill in the art to generate a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal as in the present application.

Accordingly, in view of the foregoing, Matsuoka does not teach or suggest all the recitations of independent claims 1, 2, and 35 and related dependent claims. It is respectfully requested that the claims be allowed.

REJECTION UNDER 35 U.S.C. § 103:

On page 5 of the Office Action, claims 3, 15, 18-20, 22-25, 29, and 36-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuoka in view of U.S. Patent No. 6,144,694 to Uta et al. ("Uta"). The Office Action took the position that Matsuoka and Uta disclose all the aspects of independent claims 3, 18-20, and 36-37 and related dependent claims. Applicant respectfully traverses the rejection.

Independent claim 3, upon which claims 15-17 are dependent, recites a method for limiting a signal in a transmitter at chip level, the method including combining at least two signals modulated on different carriers to a combination signal, determining a limiting signal from the combination signal filtered using a pulse shaping filter, determining an error signal using the combination signal and the limiting signal, dividing the error signal onto different carriers in a predetermined manner, and generating limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal.

Independent claim 18 recites a transmitter limiting a signal at chip level, the transmitter including means for determining a limiting signal from a transmissible signal filtered using a pulse shaping filter, means for determining an error signal using the

transmissible signal and the limiting signal, means for generating a limited transmissible signal by reducing the error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal, and means for filtering the limited transmissible signal using the pulse shaping filter.

Independent claim 19 recites a transmitter limiting a signal at chip level, the transmitter including means for determining a first limiting signal from a transmissible signal filtered using a pulse shaping filter, means for determining a first error signal using the transmissible signal and the first limiting signal, means for orthogonalizing the first error signal filtered using the filter matched to a chip pulse waveform, means for generating a first limited transmissible signal by reducing the orthogonalized first error signal from the transmissible signal, and means for determining a second limiting signal from the first limited transmissible signal filtered using the pulse shaping filter. The transmitter also includes means for determining a second error signal using the first limited transmissible signal and the second limiting signal, means for generating a second limited transmissible signal by reducing the second error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal, and means for filtering the second limited transmissible signal using the pulse shaping filter.

Independent claim 20 recites a transmitter limiting a signal at chip level, the transmitter including means for combining at least two signals modulated on different carriers to a combination signal, means for determining a limiting signal from the combination signal filtered using a pulse shaping filter, means for determining an error

signal using the combination signal and the limiting signal, means for dividing the error signal onto different carriers in a predetermined manner, and means for generating limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal. The transmitter includes means for filtering the limited transmissible signals using the pulse shaping filter, and means for generating a combined limited transmissible signal by combining the filtered limited transmissible signals.

Independent claim 36, upon which claims 29, 32, 33, and 34 are dependent, recites a transmitter limiting a signal at chip level, the transmitter being configured to determine a first limiting signal from a transmissible signal filtered using a pulse shaping filter, determine a first error signal using the transmissible signal and the first limiting signal, orthogonalize the first error signal filtered using the filter matched to a chip pulse waveform, and generate a first limited transmissible signal by reducing the orthogonalized first error signal from the transmissible signal. The transmitter is also configured to determine a second limiting signal from the first limited transmissible signal filtered using the pulse shaping filter, determine a second error signal using the first limited transmissible signal and the second limiting signal, generate a second limited transmissible signal by reducing the second error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal, and filter the second limited transmissible signal using the pulse shaping filter.

Independent claim 37, upon which claims 30-31 are dependent, recites a transmitter limiting a signal at chip level, the transmitter being configured to combine at least two signals modulated on different carriers to a combination signal, determine a limiting signal from the combination signal filtered using a pulse shaping filter, determine an error signal using the combination signal and the limiting signal, divide the error signal onto different carriers in a predetermined manner, generate limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal, filter the limited transmissible signals using the pulse shaping filter, and generate a combined limited transmissible signal by combining the filtered limited transmissible signals.

The description of Matsuoka is incorporated herein. As previously explained, Matsuoka fails to teach or suggest, at least, generating or generate or means for generating "a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal," as recited in independent claims 3, 18-20, and 36-37. Furthermore, on page 6 of the Office Action, it is correctly recognized that Matsuoka fails to teach or suggest, combining or combine "at least two signals modulated on different carriers to a combination signal," as recited in independent claims 3, 18-20, and 36-37. Accordingly, the Office Action relied on Uta as curing the deficiencies of Matsuoka. However, before proceeding with a discussion of Uta, if the Office Action acknowledged that the combination of at least two signals modulated on different carriers is not described in Matsuoka, then a person of ordinary

skill in the art would also conclude that, contrary to the contentions made on top of page 6 of the Office Action, Matsuoka consequently also does not teach or suggest, determining "a limiting signal from the combination signal filtered using a pulse shaping filter," as recited in independent claims 3, 18-20, and 36-37. The distortion compensating section 107 of Matsuoka cannot determine a limiting signal from a combination signal filtered because Matsuoka is silent as to providing the combination signal in the first place.

Referring to Uta, this reference generally describes a transmitting apparatus for code division multiplexed signals capable of reducing the transmission back-off without creating a spurious. See column 2, lines 15-18. The Office Action refers to FIG. 8 of Uta as teaching "combining at least two signals modulated on different carriers to a combination signal," as recited in the independent claims. FIG. 8 of Uta describes a conventional transmitting apparatus used for the spread spectrum communication and has a transmitter section designed such that transmission information 11-*i* of multiple channels are scrambled so that the multiplexed signal 21 resulting from the composition of the multiple channels has characteristics close to the white noise as shown in FIG. 8. However, even if Uta describes a combination of at least two signals modulated on different carriers to a combination signal, *not admitted*, Uta would not cure the deficiencies of Matsuoka. Similarly to Matsuoka, Uta does not teach or suggest that from the combination signal, the transmission apparatus determines "a limiting signal from the combination signal filtered using a pulse shaping filter," as recited in independent claims

3, 18-20, and 36-37. Furthermore, Matsuoka and Uta also fail to teach or suggest, at least, "generating limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal." Thus, a combination of Matsuoka and Uta would fail to teach or suggest all the recitations of independent claims 3, 18-20, and 36-37.

To establish prima facie obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. There also must be a reasonable expectation of success. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

In the present case, the Office Action asserted that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the

combination method of Uta into the transmitter of Matsuoka to provide a signal that is similar to white noise so that the signals of all channels have less chance of having the same value simultaneously," as described in col. 1, lines 51-57 of Uta. This assertion is respectfully traversed.

Applicant submits that Matsuoka does not describe that the nonlinear compensation circuit, which includes an amplitude limiting function for transmission quadrature base band signals by adding an amplitude calculating section, an amplitude limiting table and an amplitude limiting section thereto to easily improve the efficiency of amplification section with distortions of the entire system. However, Matsuoka does not describe that providing a signal that is similar to white noise so that the signals of all channels would have less chance of having the same value simultaneously, as submitted in Uta, would allow to easily improve the efficiency of amplification section. As previously set forth, Matsuoka does not determine a limiting signal from the combination signal filtered using a pulse shaping filter as recited in the present claims. Rather, Matsuoka provides that the distortion compensating section 107 generates a distortion compensation signal 119 based on the amplitude limiting signal 116 and a distortion compensation coefficient 118. There is no description or suggestion in Matsuoka of a need to multiplex signals so that the signals of all channels would have less chance of having the same value simultaneously, as submitted in Uta. As such, one skilled in the art would not be motivated to modify Matsuoka with Uta.

Accordingly, Applicant respectfully contends that a combination of Matsuoka and Uta fails to teach or suggest all the recitations of independent claims 3, 18-20, and 36-37 and related dependent claims. It is respectfully requested that the claims be allowed.

On page 12 of the Office Action, claims 8 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuoka in view of U.S. Publication No. 20060146924 to Smith et al. ("Smith"). The Office Action took the position that Matsuoka and Smith disclose all the aspects of claims 8 and 26. Applicant respectfully traverses the rejection.

Dependent claims 8 and 26 depend from independent claims 1 and 35, respectively. Because the combination of Matsuoka and Smith must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent claims 8 and 26, the arguments presented above supporting the patentability of independent claims 1 and 35 over Matsuoka are incorporated herein.

Smith generally describes a method and apparatus for automated correlation of digital modulation impairment is described. The technique obtains soft decision data (116, 2502) and extracts signal space location information of sufficient resolution to distinguish different types of impairment to a digitally modulated signal. The technique applies an error vector magnitude mask (117, 502) and determines the signal-to-noise ratio of the digitally modulated signal. The technique applies impairment masks (118, 2504) and provides a characterization (119) of impairment affecting the digitally

modulated signal (112). The technique determines a subset of the soft decision data (116, 2502) that falls within the impairment masks (118, 2505) and calculates correlation weights (2506).

As discussed above, Matsuoka does not disclose or suggest all of the elements of independent claims 1 and 35. Additionally, Smith does not cure the deficiencies in Matsuoka as Smith also fails to disclose or suggest, "determining an error signal using the transmissible signal and the limiting signal; and generating a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal." Consequently, the combination of Matsuoka and Smith fails to disclose or suggest all of the elements of independent claims 1 and 35.

In addition, claims 8 and 26 should be allowed for at least its dependence upon independent claims 1 and 35, and for the specific limitations recited therein. It is respectfully requested that the claims be allowed.

On page 14 of the Office Action, claims 12 and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuoka. The Office Action took the position that Matsuoka discloses all the aspects of claims 12 and 32. Applicant respectfully traverses the rejection.

Dependent claims 12 and 32 depend from independent claims 2 and 36, respectively. Because Matsuoka must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent claims 12 and 32, the

arguments presented above supporting the patentability of independent claims 2 and 36 over Matsuoka are incorporated herein.

In the present rejection, the Office Action has provided only broad conclusory statements as the alleged motivation to arrive to the claimed recitations of claims 12 and 32. Specifically with regard to the recitations of claim 12, the Office Action took the position that the motivation was that "it is well known in the art that the equation as claimed is merely the standard form for a system of linear equations." The Office Action, however, did not provide any evidence in the prior art to support these broad, conclusory assertions.

In rejecting claims under 35 U.S.C. § 103, the USPTO bears the initial burden of presenting a *prima facie* case of obviousness. *See In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A *prima facie* case of obviousness is established by presenting evidence that the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed combination or other modification. *See In re Lintner*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Furthermore, the conclusion that the claimed subject matter is *prima facie* obvious **must be supported by evidence**, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. *See In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Rejections based on § 103 must rest on a factual

basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The USPTO may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. *See In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967).

Indeed, the Federal Circuit has repeatedly cautioned against employing hindsight by using Applicant's disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. *See, e.g., Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988). When determining obviousness, "the [E]xaminer can satisfy the burden of showing obviousness of the combination 'only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.'" *In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), *citing In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992).

Accordingly, because the Office Action has not provided any evidence to support the broad, conclusory assertion that the recitation of claims 12 and 32 are merely the standard form for a system of linear equation, Applicant respectfully submits that the Office Action's rejection does not pass muster as a *prima facie* rejection to show obviousness, and should be withdrawn.

In addition, claims 12 and 32 should be allowed for at least its dependence upon independent claims 2 and 36, and for the specific limitations recited therein. It is respectfully requested that the claims be allowed.

On page 14 of the Office Action, claims 13 and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuoka in view of U.S. Patent No. 7,110,434 to Currivan et al. ("Currivan"). The Office Action took the position that Matsuoka and Currivan disclose all the aspects of claims 13 and 33. Applicant respectfully traverses the rejection.

Dependent claims 13 and 33 depend from independent claims 2 and 36, respectively. Because the combination of Matsuoka and Currivan must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent claims 13 and 33, the arguments presented above supporting the patentability of independent claims 2 and 36 over Matsuoka are incorporated herein.

Currivan generally describes a method and apparatus for performing weighted linear combination selectively with each of the input spread signals in a multiple access communication system. The predetermined number of unused codes is always the same in each implementation. Alternatively, the predetermined number of unused codes is selected from within a reordered code matrix using knowledge that is shared between the two ends of a communication system, such as between the CMs and a CMTS.

As discussed above, Matsuoka does not disclose or suggest all of the elements of independent claims 2 and 36. Additionally, Currivan does not cure the deficiencies in Matsuoka as Currivan also fails to disclose or suggest, "determining an error signal using the transmissible signal and the limiting signal; and generating a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip pulse waveform from the transmissible signal." Consequently, the combination of Matsuoka and Currivan fails to disclose or suggest all of the elements of independent claims 2 and 36.

In addition, claims 13 and 33 should be allowed for at least its dependence upon independent claims 2 and 36, and for the specific limitations recited therein. It is respectfully requested that the claims be allowed.

On page 15 of the Office Action, claims 14 and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuoka in view of U.S. Patent No. 5,602,833 to Zehavi ("Zehavi"). The Office Action took the position that Matsuoka and Zehavi disclose all the aspects of claims 14 and 34. Applicant respectfully traverses the rejection.

Dependent claims 14 and 34 depend from independent claims 2 and 36, respectively. Because the combination of Matsuoka and Zehavi must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent

claims 14 and 34, the arguments presented above supporting the patentability of independent claims 2 and 36 over Matsuoka are incorporated herein.

Zehavi generally describes a method and apparatus for generating orthogonally encoded communication signals for communication system subscribers using multiple orthogonal functions for each orthogonal communication channel. Digital data symbols for signal recipients are M-ary modulated using at least two n-length orthogonal modulation symbols. These symbols are provided by a modulation symbol selector (124) typically from one or more code generators (126, 128), and the modulation is such that M equals a product of a total number of orthogonal functions and the number used to generate individual modulation symbols. Each group of log M encoded data symbols from data processing elements (100, 102) are mapped into one modulation symbol using the modulation symbol selection element (124) according to their binary values. The energy values are mapped into energy metric data using a dual maximum metric generation process. Each demodulator outputs M energy values representing each of the M mutually orthogonal modulation symbols, which are then combined into a single set of M energy values.

As discussed above, Matsuoka does not disclose or suggest all of the elements of independent claims 2 and 36. Additionally, Zehavi does not cure the deficiencies in Matsuoka as Zehavi is also silent as to teaching or suggesting, "determining an error signal using the transmissible signal and the limiting signal; and generating a limited transmissible signal by reducing an error signal filtered using the filter matched to a chip

pulse waveform from the transmissible signal." Consequently, the combination of Matsuoka and Zehavi fails to disclose or suggest all of the elements of independent claims 2 and 36.

In addition, claims 14 and 34 should be allowed for at least its dependence upon independent claims 2 and 36, and for the specific limitations recited therein. It is respectfully requested that the claims be allowed.

On page 16 of the Office Action, claims 16-17 and 30-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuoka in view of Uta and further in view of U.S. Publication No. 20030001669 to Billsberry ("Billsberry"). The Office Action took the position that Matsuoka, Uta, and Billsberry disclose all the aspects of claims 16-17 and 30-31. Applicant respectfully traverses the rejection.

Dependent claims 16-17 and 30-31 depend from independent claims 3 and 37, respectively. Because the combination of Matsuoka, Uta, and Billsberry must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent claims 16-17 and 30-31, the arguments presented above supporting the patentability of independent claims 3 and 37 over Matsuoka and Uta are incorporated herein.

Billsberry generally describes a method and apparatus for utilizing the distortion generated within a portion of a balanced amplifier to cancel the distortion generated within the whole balanced amplifier. Samples of the signal and distortion from part of the

balanced amplifier are combined with a reference signal such that the two signals destructively combine leaving the distortion from the sampled part of the balanced amplifier. The gain and phase of the distortion is then adjusted so that when it is coupled into the input of the other part of the balanced amplifier the distortion generated by both parts of the balanced amplifier is cancelled.

As discussed above, Matsuoka and Uta do not disclose or suggest all of the elements of independent claims 3 and 37. Additionally, Billsberry does not cure the deficiencies in Matsuoka and Uta as Billsberry is also silent as to teaching or suggesting, "combining at least two signals modulated on different carriers to a combination signal; determining a limiting signal from the combination signal filtered using a pulse shaping filter...and generating limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal." Consequently, the combination of Matsuoka, Uta, and Billsberry fails to disclose or suggest all of the elements of independent claims 3 and 37.

In addition, claims 16-17 and 30-31 should be allowed for at least its dependence upon independent claims 3 and 37, and for the specific limitations recited therein. It is respectfully requested that the claims be allowed.

On page 17 of the Office Action, claims 21 and 38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuoka in view of Uta and further in view of EP0993136 to Hiramatsu et al. ("Hiramatsu"). The Office Action took the position that

Matsuoka, Uta, and Hiramatsu disclose all the aspects of independent claims 21 and 38. Applicant respectfully traverses the rejection.

Independent claim 21 recites a transmitter limiting a signal at chip level, the transmitter including means for filtering transmissible signals modulated on different carriers using pulse shaping filters, means for combining at least two filtered signals to a combination signal, means for determining a limiting signal from the combination signal, and means for determining an error signal using the combination signal and the limiting signal. The transmitter includes means for dividing the error signal onto different carriers in a predetermined manner, means for generating limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal, means for filtering the limited transmissible signals using the pulse shaping filter, and means for generating a combined limited transmissible signal by combining the filtered limited transmissible signals.

Independent claim 38 recites a transmitter limiting a signal at chip level, the transmitter being configured to filter transmissible signals modulated on different carriers using pulse shaping filters, and combine at least two filtered signals to a combination signal. The transmitter is further configured to determine a limiting signal from the combination signal, determine an error signal using the combination signal and the limiting signal, divide the error signal onto different carriers in a predetermined manner, generate limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal, filter

the limited transmissible signals using the pulse shaping filter, and generate a combined limited transmissible signal by combining the filtered limited transmissible signals.

Because the combination of Matsuoka, Uta, and Hiramatsu must teach, individually or combined, all the recitations of the base claim and any intervening claims of independent claims 21 and 38, the arguments presented above providing that Matsuoka and Uta, individually or combined, fail to teach, at least, combining "at least two filtered signals to a combination signal," determining "a limiting signal from the combination signal," and generating "limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse waveform from a corresponding transmissible signal," which are also recited in independent claims 21 and 38 are incorporated herein. It is also submitted that Matsuoka and Uta, individually or combined fail to teach or suggest, generating "a combined limited transmissible signal by combining the filtered limited transmissible signals," as recited in independent claims 21 and 38.

As discussed above, Matsuoka and Uta do not disclose or suggest all of the elements of independent claims 21 and 38. Additionally, although Hiramatsu may describe using a band pass filter, which alone does not cure the deficiencies of Matsuoka and Uta. Similarly to Matsuoka and Uta, Hiramatsu is also silent as to teaching or suggesting, combining "at least two filtered signals to a combination signal," determining "a limiting signal from the combination signal," and generating "limited transmissible signals by reducing each error signal part filtered using the filter matched to a chip pulse

waveform from a corresponding transmissible signal," and generating "a combined limited transmissible signal by combining the filtered limited transmissible signals," as recited in independent claims 21 and 38. Consequently, the combination of Matsuoka, Uta, and Hiramatsu would fail to disclose or suggest all of the elements of independent claims 21 and 38.

CONCLUSION:

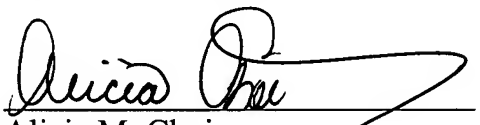
In view of the above, Applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicant further submits that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicant therefore respectfully requests that each of claims 1-38 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time
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